

Project Title: Transmission of Tuberculosis in a High Incidence area Family-Relationship

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Executing Institute: Centers for Disease control, Sixth Branch

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Abstract:

Background: In Taiwan, tuberculosis is the infectious disease with highest prevalence and mortality. The incidence in 2004 was 74.1/per 100000, and mortality was 2.98. In eastern Taiwan, the incidence and mortality are much higher than those in rest of Taiwan. Taking Shoulin country, a mountainous country in Hualien county, as an example, the incidence there was 647.3/per 100000, which was 4 times higher than whole county (160.8) and 8.7 times higher than the nation's average incidence. The major goal of TB control program in Taiwan was to find, cure, and manage patients. It is common to find patients with long family's history or suspected of family clustering. This research aims to investigate the characteristic of the family tuberculosis and its potential risk factors.

Method: The data was from the CDC TB management system. For the suspect family contact or family clustering, we conducted semi-structure questionnaire and face to face interview. The frequency, percentage assay data was analyzed and the X^2 test was used to find out the significant differences between a characteristic with the variable.

Result: Hualien County has 3231 of tuberculosis cases from 1990 to 2007 and 1186 cases were in Shoulin country. Among them 746 cases belong to family cluster that had at least two cases in one family, which accounting for 204 families. The family cases are more prevalent in males to female (467:279; 62.6%:37.4) with age distribution mainly in 16-20 y/o (11.4%) and 31-35 (11.3%) y/o groups. Regarding to ethnicity, Taroko was the majority (98.4%). Concerning the clinical symptoms, cough was the major one (91.2%). The behavior characteristic was smoking and drinking alcohol, with 50.5% to 52.1%, respectively. HIV infections constituted only 0.5%. The relapse rate was as high as 21.7%. The proportion of patients who had TB contact history was 94.2%. The analysis of family and community infection showed that family with two or more TB patients had higher risk of family infection.

Discussion: Our research on TB cases in Shoulin country showed that, there were still many latent infections and also contagious cases in community. Therefore, measures such as strengthening contact tracing, early detection, and establishing community patient care mechanisms were essential.

Keywords: Tuberculosis, Epidemiology, Household contact